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ABSTRACT

This document was produced to provide architects, planners, and builders with an educational design brief for Dorset, England school grounds. The County Education Planning and Development Department will use it as an educational and curriculum statement to complement their more detailed and specific building briefs. The brief uses many of the ideas and some of the text of "The Outdoor Classroom: Building Bulletin 71." The brief addresses: educational and social demands on school grounds; consultation; site survey, appraisal, and records; optional layouts; site of buildings; building, configuration, fabric, and services; access and circulation; car parks; site boundaries and enclosures; hard play areas and surfaces; site furniture; earth modeling and soils; grass sports and recreation areas; soft landscapes; growing plants; keeping animals; advance work; aftercare; and statutory and legal requirements. (Appendices contain possible site features, a management policy statement of objectives, and a list of plants.) (EV)



Generic School Grounds Design Brief

January 1995

Dorset Education Authority

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B0: The Generic School Grounds Design Brief

This document has been produced to provide architects, planners and builders with an educational design brief for Dorset school grounds. The County Education Planning and Development Department, P & D, will use it as an educational and curriculum statement to complement their more detailed and specific building briefs. It has been written to provide sufficient detail and rationale for the architects so that when used in consultation with school and LEA staff, the architect should be able to develop the individual site to meet its full educational potential in terms of the aims given here.

It is a delight that each site possesses unique strengths, features and constraints. Our emphasis on philosophy and rationale as well as prescription is thus to encourage the full interpretation of educational needs in the light of the characteristics of each site. We seek to bring out the best of each site.

This brief uses many of the ideas and some of the text of 'The Outdoor Classroom: Building Bulletin 71'. It has been written to match the subtitles and numbering of the generic design brief given in its Appendix 3. We have developed Dorset's brief from this but in line with changing times and Dorset's particular views. We would recommend that the Dorset brief is read and used in conjunction with 'Building Bulletin 71'.

School Grounds Design Brief Working Party (1992)

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The members of this working party most gratefully acknowledge the work of the authors of 'Building Bulletin 71' and also the support and encouragement afforded us by Learning Through Landscapes and its Director, Bill Lucas.

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B1. Educational and Social Demands on School Grounds

The school is the entire estate

The school's grounds are considered to be an integral and essential part of its educational resources. The curriculum of the nineties requires children to step outside to work in and study features of their own environment. Teachers also need to use the outside environment to enrich their teaching styles and through this, to enhance the children's learning. The design of play areas within the grounds has the potential for a strong and positive effect on the children's behaviour and thus upon the school ethos as a whole.

Self-help initiatives: Lessons learned from the past

Many schools have already recognised this and there have been a great number of self-help initiatives - teachers have been developing and using their school's grounds for many years. Schools have developed ponds and environmental areas as well as children's gardens and orienteering and fitness trails. Many flat playgrounds now sport quiet 'play' areas which are often complemented by imaginative games marked on the playground. Play houses are popping up to offer creative alternatives to football. Science experiments, geography and mathematics investigations are moving outside and weather stations are now really used. The school's grounds are increasingly being used as a valid and valuable extension of the classroom - across the County we see children and adults trying to make the best of the existing resources around their schools. But we are no longer concerned with adding just a pond or a meadow - we are now concerned with the grounds as a whole.

Assets and Demands to be met by Planners and Designers

Planners and designers must now design the school as an entity. The educational and social demands on the new school's grounds need to be met at the design stage and not as an expensive afterthought at later date. From the very beginning of any project planners need to look for all the opportunities already present on site and in the locality. Assets like archaeological features, streams, ditches, woodland and heathland will need to be recorded, valued and built into the plan. The development of both existing and new

assets needs to be considered in the light of the full educational demands of the nineties.

Multi-Disciplinary and all-stage consultation

This is a challenge which will need a multidisciplinary approach. Meeting educational and social needs through the full development of the site and buildings will need the assistance of design, school and LEA personnel throughout the process. Good consultation at all stages is crucial.



B2. Consultation

At all stages in the development of a new school, from before the first site surveys until after the hand-over, the architect must consult about the development of the grounds with P&D, the County Building Services Officer and with members of the inspectorate and advisory service, contacted through P&D. Where the new development involves an existing school the consultation process must include the head and chair of governors of that school. See Appendix 3 - Sequence of Design.

B3. Site Survey and Appraisal and Records

A level and feature land and building survey needs to be made of the existing educational potential on the site and immediate locality. The following features should be considered, with more detail being available in Appendix 1:

Geology and soil topography trees and hedgerows and other natural vegetation old field boundaries wetland and water courses historic or ancient features

These should be appraised to determine what landscape features of educational importance should be retained. A record of the survey, including photographs, should be prepared and given to the County Building Services Office so that it can be made available to the incoming headteacher and others who might need it.

B4. Optional Layouts - Design Strategy

The spatial disposition of the major components of the site are absolutely crucial to landscape and educational opportunities, ie, the location and relationship of buildings, access, circulation and parking, hard and grass play areas. The size, character and possible uses of the outdoor spaces created by these options should be appraised and evaluated fully for educational opportunities. Two or more notional layouts, incorporating the main elements, should be presented for discussion and development with planners architects and educational representatives from the LEA and school.

Design, management and use considerations will need to be considered in the light of aesthetic, functional and financial contexts. Educational representatives must be fully involved at this stage. Approvals must be obtained before progressing the scheme.



B5. Site of Buildings

Building location should respect existing landscape features, respond to external views, promote energy conservation and provide easy access with a sense of arrival and direction. At all stages the landscape details should accompany the planning application, so that the design of the site is developed in partnership with the architect. All external spaces should be planned and, where appropriate, landscaped. The use and potential development, both short and long-term, of all space on the site needs to be considered.

B6. Building Configuration, Fabric and Services

Opportunities for a variety of learning experiences should be built into the design. These can occur in a number of ways and each project should incorporate several:

- In the building configuration, opportunities should be sought at the interface between the building and the grounds for the creation of courtyards, atria, sheltered and/or covered outside areas (for large and other art and technology purposes), seating, outside teaching areas, amphitheatres, areas for growing plants (inside and out), exterior walls which can be used for ball games and planting, and the inclusion of window sills for planting and displays. Simple additions, like having external doors to all classrooms, can make access much easier.
 - The educational use of specific parts of the building should also be considered so that linkages between curriculum subject areas can be made.
- 2) The fabric of the building should have a variety of educational opportunities imaginatively planned into it, for instance through offering colours, patterns, geometric shapes and textures. Any overhead and underground services should be coordinated to minimise their impact on the design.
- 3) In the hard landscaping, tarmac, paths and car parks etc., there should be a diversity of shapes, patterns, textures and colours. Varied brickwork and stonework can help with a number of subjects as well as simply stimulating the imagination. For younger children there should be a chequerboard and other shapes, lines and areas drawn on the playground or made out of paving.
- 4) For safety, social and thus behavioural reasons, where tarmac is not laid out for a specific sports pitch it should be broken by low walls, seats and trees for shade see also section on car parks.

Further items that can be added in can be found in Appendix 1.



B7. Access and Circulation

Fluid linkage of internal and external spaces should be consistent with the overall pattern of educational use. Vehicles and pedestrians must be segregated with imaginative landscaping or use of contrasting hard surfaces to define routes. Optimal provision for disabled people's access must be provided throughout the site wherever possible.

Thought should be given to providing adequate space for the movement of service and maintenance vehicles, including sufficient routes for emergency vehicles and tractor access to the playing fields.

In planning access and circulation, flow patterns for vehicle access, car parking, cars dropping off pupils, coach parking, delivery vehicles, cycles and pedestrian routes must be thoroughly analysed to take account of occupants' movement needs and habits.

Anticipating the usage of pedestrian pathways and open space is vital when planning to meet the needs of the school and pupils. The design of entry and exit points, including the ways in which doors open, and the waiting areas outside classrooms should be addressed in terms of pupil numbers, likely flow rates, waiting times, available space, and most importantly, the management of behavioural issues.

The intensity and direction of movements and congregation around entrances by groups of pupils should be catered for in terms of path width, alignment and edge detailing. Sensitive barriers may be needed to direct pedestrians to keep to paths.

Entrances to the school, departments and year bases should convey appropriate messages, eg. welcome and educational purpose. This may include areas for parents. Covered waiting areas are particularly important for visitors and specifically for parents with babies and pre-school children.

When planning the pathways around the school thought should be given to "softening" the built environment, i.e. through the use of less angular paths with some congregating areas equipped with sufficient seating. Some pathways may be need to be edged to protect the adjacent landscape. In some areas pathways may need additional features such as lighting or handrails. Thought will need to be given to the safety lighting of car parks. All lighting will need to be sensitively planned and designed to be turned off when not in use. Nightscape should be considered.

Pathways leading to the main school entrance should encourage all visitors towards the focal entrance to the school and convey positive messages through their careful design and signposting.



B8. Car Parks

Car parks should reflect and contribute to the ethos of the school. The location and detailing of the car parks should, through careful landscaping and thoughtful planting, reduce their impact on the site to an absolute minimum. The car park should be creatively planned so that it does not dominate the main arrival area and entrance points around the building. The preferred location of the car park would be on the periphery of the school with clear entry and exit points with clearly focussed pathways which guide and welcome visitors to the school's main entrance.

Parking space requirements vary from school to school and are given in the specific brief for the project. They consist of four elements:

- a) staff and service vehicles;
- b) buses;
- c) parents' cars transporting pupils;
- d) evening activities.

It is (c) which poses the major problem, as parking areas for this alone cannot be afforded on a comprehensive basis.

Where existing schools are being extended the following procedure, as for new schools, is to be used, since planning permissions will not be forthcoming without adequate parking.

a) Staff and Service Vehicles:

Provision ought to be made within the site for teaching and ancillary staff vehicles on a one to one basis, with part-time staff being rated on a full-time equivalent. Parking spaces for service vehicles and school visitors' cars to be at the rate of one per 10 staff spaces. Parking areas adjacent to roads and turning spaces used by buses must be suitably strengthened.

b) Buses:

- i) Contract and DCC buses the ideal situation would be the provision of an in-and-out service road, together with an adjacent lay-by to enable buses to wait at the end of the day and the pupils to load without crossing roads; if this is not possible, provision must be made on site for the turning and parking of buses.
- ii) Service buses a lay-by off site is the normal arrangement.

B8: car parks continued overleaf



B8. Car Parks continued....

c) Parents' cars:

this element of school traffic is probably the most difficult to accommodate satisfactorily. It consists generally of two peak periods:

- i) early morning unloading of children for a very short period;
- ii) extensive short-term parking for picking up children at the end of the school day.

Both these practices cause congestion and undesirable conflict between vehicular and pedestrian movement.

At new schools, provision should ideally be made on site for the parents' cars to pick up children, where possible by planning an 'in-and-out' road circulation with the roadway widened to facilitate, parking alongside it. However, in the case of the many existing schools it is impossible to achieve this because of inadequate space within the school curtilage and a restricted highway alongside. In these cases the provision should be treated on an ad hoc basis in consultation with the County Planning Officer and County Surveyor.

d) Evening Activities:

Overflow parking for evening activities once the normal parking facilities are filled should be allowed on the play spaces. Suitable vehicular access for light vehicles only should be provided from the access road or parking area to facilitate this use of play spaces for overflow parking in the evenings. The use of these areas for parking is to be controlled by lockable, removable or folding bollards. Consideration must be given to this at an early stage in view of the relationship between the school and the hard play areas. Lighting should be provided for evening use.

All car parks should be screened by existing or new landscape features which form an integral part of the whole school design. Where vegetative screening is used it should be planted to have a wildlife value, for example, to offer 'green lanes' or a winter food source.



B9. Site Boundaries and Enclosure

The design, development and final construction of any site boundaries, partitions or enclosures is most important as these features contribute to the aesthetic character of the site. The educational needs, site management, adjacent uses and subsequent maintenance must all be considered in determining the detailed boundary solutions. The function and impact of all fences, hedges and walls should be fully considered and viable alternatives discussed - redeveloping these at a later date can be expensive. The educational opportunities offered by having a variety of designs of walls, hedges and fences should be explored fully see section B 6.

Internal fences, hedges, trellises or pergolas can be employed to define spaces, demarcate pathways, separate uses and create features. Walls, hedges and fences also convey messages to members of the school and the outside community.

All such messages should be in keeping with an educational ethos.

B10. Hard Play Areas and Surface

The design of the playground must involve consultation with educational personnel and school staff. All purpose-built spaces will have to meet a multitude of valid uses. The different demands of formal games, active pursuits and less robust activities such as imaginative play, relaxation, social interaction and discussion, should all be recognised in design and detailing. The requirement for safety and for adult supervision must be anticipated - the hard play areas need to be arranged so that pupils can be supervised sufficiently at playtimes.

There is a need in the hard play areas for varied and stimulating colours, textures, patterns, shapes and sizes related to these varied demands. The provision for the congregation of pupils in some areas, for seating and for shelter need to be considered as does the need for occasional parking. (see section B 7: Access and Circulation), A softening of these hard areas may be preferable by using curved as opposed to rectangular spaces.



11. Site Furniture

Seating must be provided so that at least twenty per cent of the school population can be seated at one time. This should be provided in a variety of ways in a variety of spaces, from formal seating to bays off the playground and to small hidden niches. Imaginative and original designs should reflect the intensity of use and be in scale with the users.

Wherever possible, incidental seating, such as low stone walls and amphitheatres, should be used as part of the total seating. Sheltered but outdoor space should be made on the site for a whole class to be able to sit together, though this may be on grass or tiered paving, and there should be several areas for small groups of pupils (n < 8) to sit and work together.

Consideration of the needs of parents collecting pupils from school and visiting the school in general should be given by including seating in purpose-built parent congregation areas.

Large robust play apparatus of appropriate scale should be incorporated as an integral part of all primary playgrounds. Thought must also be given to providing tables, worktops, litter bins, lighting, signs on all sites.

Consideration must be given to the need for outdoor storage in strategic locations to securely store large pieces of educational equipment .

Where there are reception-aged children in the school there must be a separate fenced play area for the reception children immediately outside their teaching base. This will need facilities for sand and water play, climbing equipment, imaginative play equipment and most importantly, accessible and adequate storage for numbers of large toys. In siting the sand and water play equipment thought must be given to supervision and safety, as well as to the safe provision of a nearby water supply and the avoidance of children treading sand into the classroom.

* see page 21 Building Bulletin



B12. Earth Modelling and Soils

New landforms should be in scale and character with their surroundings and whilst fulfilling their specific design objectives should afford a range of slopes and features to enhance outdoor teaching, sport and play. Stripping, storage and placement of soils should be related to the varying demands of the different site uses - please see Appendix 1 for the range of curriculum uses.

Advice from a structural engineer should be sought in the development of these areas with any slope steeper than 25 per cent. Any slopes greater than 25 per cent are not mown and should be left as rough grass and or planted. They might possibly include a designated pathway.

Paths through areas for study need to be planned into the whole school site - some need to be all season where they are to be used all year.

Examples of Useful Earth Modelling Areas

Amphitheatre¹

Slopes, mounds, arenas

Areas for dance, drama, music+ Hard covered areas for CDT etc* (where specially requested by the school)

Sculpture areas - making and

displaying

Growing areas/chequerboard gardens/ tree nursery /raised beds Ponds, boggy areas, reserves, hollows and damp areas for the study

of wildlife

Meadow areas on impoverished (sub) soil with appropriate management

schemes²

Natural rock faces/rock walls Hardstanding area for visiting displays/ caravans etc class teaching, poetry, play reading

and other whole class activities surveying and studying

microclimates

to provide space and shelter for big

work

to make and display sculpture

children must be able to grow and tend plants - see section 15 class teaching and study

study of geology weathering/ texture coastguards, BDH, displays etc

- + see Burton Bradstock Primary School
- * see Milbourne St Andrew First School
- 1 see Prince of Wales First school, Dorchester
- 2 see Bovington First or Verwood First School



B13. Grass Sports and Recreation Areas

All sports and recreation areas should take account of Building Bulletins 28 and 71. All areas should include marginal areas, banks produced by the creation of plateaux and the need for shelter or other landscape works. Pitch layout should take full account of the size, shape and the potential use of residual areas and the proximity of public roads and footpaths which may require ballstop fencing. These sorts of consideration should also be given to the meadow area, for example. Water hydrant points should be provided at playing fields on dry, sandy or gravel soils to enable the watering of goal mouth areas.

B14. Soft Landscapes

Local distinctiveness in planting should be taken into consideration so that local character is maintained wherever possible. Tree and shrub planting should aim to create a strong landscape structure which defines spaces, screens out what we do not want to see, directs views and provides vistas. All opportunities should be taken for the planting to offer shelter and shade, the filtering of dust and noise, varied habitats and green corridors. The planting design should reflect the inherent character of the site and the objective of diverse educational use.

There should be awareness of the intensity and robustness of subsequent use and the general desire for low maintenance. Care should be exercised with the width, shape and edge details for shrub borders so that they thrive amid intense use. Planting appropriate shrubs next to pathways is important as is planting trees at appropriate distances from buildings boundaries, roads, paths services etc. All planting must be in consultation with local planners.

Examples of soft landscapes

A variety of plants will be needed to provide ecological diversity' richness and cover. Planting to provide nectar, seed heads, pollen, scent, colour, texture and variety, ie, planting which is attractive to birds, butterflies and other insects and animals and which is of direct teaching use, ie, for drawing, pressing, shape etc. It should include some plants that children will like, ie to touch, smell, draw and pick; trees and hedges to provide shelter and/or screening, to reduce noise and disguise fencing, and to provide blossom, fruits, nuts, colour, texture, tree shape and variety, shape and patterns in leaf and bark, orienteering points, and awe and wonder in children. The planting should provide green edges, green corners green corridors, greenery and twigs for picking.



B14. Soft Landscapes continued

Maintenance of soft landscapes

The planting of trees and shrubs during the summer before the school opens in September entails the provision of container trees and shrubs which must be kept watered during the dry summers. This problem also exists during the establishment period on dry soils.

All enclosed courtyards in schools should be provided each with one external tap which can be used for watering plants, filling ponds or educational use where water is needed.

Open courtyards and external areas around the school building where security may be a problem and the soil is free draining should be provided with a water point in a lockable manhole where a standpipe can be fitted. Secondary schools may need four points and middle and primary schools need two points. These could be reduced if a fire hydrant point is situated reasonably close to the school.

B15. Growing Plants

There must be opportunities for pupils to raise and grow plants close to the school for horticultural and agricultural investigations. The detail for this must be determined in conjunction with the school.

B16. Keeping Animals

Unless specifically requested by the school and agreed by the CEO, no arrangements should be made to keep domestic animals on the site.

B17. Advance Work

Ideally, structure planting on sites in the building programme should take place as soon as the project is included and all works outside the building contract area should be implemented as soon as detailed proposals and budgets are approved. Where possible playing fields should be ready for use when the building is occupied.



B18. Aftercare Including Establishing Periods

The ease and cost of subsequent maintenance, with particular regard to earth modelling and planting, should influence but not constrain a landscape design aimed at maximising educational use. A management plan and as built drawings should set down the design and use objectives and form the basis for the annual maintenance programme.

The establishment periods and handover procedure are shown in Appendix 4. See also Appendix 2 'Management Policy Statement Objectives' and refer to 'The Outdoor Classroom' Appendix 4: Page 69. 'Management Policy: statement of objectives' (attached).

B19. Statutory and Legal Requirements

The relationship with adjacent site owners should be investigated in relation to respective interests and rights and the possibility of the interests of statutory undertakers to carry services across the site. The following checklist should be considered:

- i) Holders of easements;
- ii) Holders of wayleaves;
 - iii) Statutory undertakers, (gas electricity, water and post office) overhead and underground services.
- iv) Holders of rights of...

way

support

light

air

drainage

- \v) Restrictive covenants.
- vi) Party structures.



B20 Appendix 1 Possible Site Features

Features

Sand-construction pitch

Orienteering trails

Archery area Survival training area Fitness circuit/trim trail Outdoor art areas Amphitheatre / stage Spaces for drama

Geological exhibits Textured surfaces Model landscapes Hills and vallevs

Different slopes and ramps Contours marked on ground

Spot heights

Sundials Compass Large scale map

Weather station Nature or theme trail Technology project area

Quiet area for study/reflection_

Walls to sit on

2D and 3D shapes/patterns

Husbandry

Vegetable plots Flower beds/gardens Plant containers/boxes Trellis for climbers Herb garden

Herbaceous border

Tree/wild flower nursery area

Ornamental shrubs Soft fruit/ Orchards

Nutteries

Greenhouse/cold frames (secondary)

Annual cornfield

Boudaries

Shelter-belts Ditches Hedges Hedgebanks Walls

Fences

Artificial Habitats

Bird and Bat boxes Camping space

Stone/brushwood/log piles

Compost heaps **Butterfly Gardens** Dry Stone Walls

Wetlands

Pond Stream Bog/marsh Stepping stones Damp meadow Wooden boardwalk

'Natural habitats'

Spring/summer meadows

Trees Scrub Shrubs Woodlands

Play/social areas

Ball wall

Covered play space Hiding places/den/refuge

Arbours/mazes

Huts

Movable furniture Hard surfaces Grass areas Seat clusters Sitting/social areas Parents waiting area Play equipment Play markings Boules/croquet Sand pit

Logs

Play mound Rubber tyres

Construction materials Cooking/barbecue area

Tables



B21 App 2 Management Policy: Statement of Objectives

- 1 A diverse and stimulating environment that offers the broadest possible range of opportunities for educational use, with the flexibility to accommodate changing demands for outdoor resources.
- 2 A landscape setting of quality that is in harmony with and makes a positive contribution to its surroundings.
- 3 Outdoor teaching spaces that are both safe and secure, and conform to statutory requirements for sports provision and the physical environment, as set out in the Education (School Premises) Regulations 1981 and relevant planning legislation.
- 4 Spaces and facilities for all forms of play and social interaction during the school day, including both active and passive pursuits for groups and individuals.
- 5 An ability to accommodate extracurricular social and fund-raising activities that are of benefit to the school and community wherever the need arises and the capacity exists.
- 6 The tailoring of annual grounds maintenance to the educational needs of the individual school.
- A working partnership of inspectors, advisers, landscape staff and individual schools to achieve these ends and provide sustained support for change and development. Within the framework thus created by the local education authority, schools could develop their own policies for landscape management and the care and maintenance of the school site. They could then formulate plans to provide the phased and the long-term development of the school, landscape. These should be available to pupils and other users of the grounds.

taken from 'Building Bulletin 71'



B22 Appendix 3 List of Plants

Nectar-rich garden flowers which are attractive to butterflies and other insects.

Garden Shrubs

- Buddleia (sp. daviddi, gobosa, alternifolia, weyeriana)
 Hebe (especially 'Great Orme' and 'Midsummer Beauty')
 Privet (especially wild 'ligustrum vulgare'. Suburban Privet flower will attract some species)
- S Lavender (especially dwarf 'Munstead Blue')
- S Honeysuckle Rosemary
- S Cotoneaster

Escallonia and Viburnum (some varieties)

White Jasmine

Herbaceous Perennials

Aubretia

Primula, Primrose, Polyanthus

Violet

Arabis

Forget-me-not

Wallflower (Yellow)

Sweet Rocket

Sweet William

Honesty

Red Valerian

Thrift

Columbine

- S Scabious
- S Globe thistle

Heathers

Herbs e.g. Apple Mint, Marjoram, Thyme

Ice Plant 'Sedum spectabile'

S Michaelmas Daisy

Hysopp

S Golden Rod

S = These plants also produce seed heads and berries for garden birds.



B22 Appendix 3 List of Plants continued

Annuals

Candytuft Helichrysum

Nasturtium Marigold

Tobacco Plant Petunia

Night Scented Stock Alyssum

Trees and shrubs whose berries and fruits are sought by British wild birds

*Rowan <u>Sorbus aucuparia</u>	*Honeysuckle <u>Lonicera</u>			
*Hawthorne Crataegus monogyna	Guelder Rose Viburnum opulus			
*Holly <u>llex aquifolium</u>	Sea Buckthorn Hippophae rhamnoides			
*Elder <u>Sambucus nigra</u>	lvy <u>Hedera helix</u>			
Wayfaring Tree Viburnum lantana	*Blackberry Rubus fruticosus			
Crab Apple Malus sylvestris	Spindle <u>Euonymus Europaeus</u> P			
*Yew <u>Taxus baccata</u> P	Privet Ligustrum vulgare P			
	Contoneaster Simonsii			
	*Contoneaster horizontalis			
Also	*Contoneaster <u>Watererii</u>			
Bird Cherry <u>Prunus padus</u>	*Firethorn Pyracantha coccinea			
and orchard fruit trees	Barberry Berberis Darwinii			
	Flowering Currant Ribes sanguineum			
	Autumn Olive Elaeagnus umbellata			
* = Especially good	Russion Olive Elaegnus angustifolia			
P = Poisonous	Red Chokeberry Aronia arbuifolia			

Trees which provide a good habitat for insects

INSECTS and grubs are the staple diet for many fledgling birds. They also provide the high protein for a nestling's diet. To improve bird populations by encouraging them to breed close by, the right plants must be on-site to support the insect populations. The following list shows the number of insect species known to feed on various kinds of trees. (All indigenous species).

Oak	284	Willow	266	Birch	229
Hawthorn	149	Blackthorn	109	Poplar	97
Crab Apple	93	Scots Pine	91	Alder	90
Elm	82	Hazel	73	Beech	64
Ash	41	Lime	31	Hornbeam	28
Rowan	28	Maple	26		



B22 Appendix 3 List of Plants continued

SOME NECTAR RICH WILDFLOWERS WHICH ARE ATTRACTIVE TO BUTTERFLIES AND OTHER INSPECTS.....

Meadows and Downland

Generally attractive to insects

especially attractive to bees

Clover

Chicory

Ox-Eye Daisy

Hawkbill

Cowslip

Speedwell

CreaterKnapweed (Calcareous)

Wild Thyme

Field Scabious

wild intylle

Bird's-foot-trefoil

Wild Majoram

Bird S-100t-trei

Sainfoin

Wet Meadow, River and Pond Banks

Ragged Robin

Lady's Smock

Hemp Agrimony

Meadowsweet

Purple Loosestrife

gorde (Acidic pref.)

Wayside Hedgerow and Scrub

Generally attractive to insects especially attractive to bees

Primrose Borage
Bluebell Burdock
Bugle Chamomile
Clustered Bellflower - (Calcareous) Charlock
Manday Granophill (Calcareous) Pandalian

Meadow Cranesbill (Calcareous)

Teasel

Dandelion

Feverfew

Thistle Old Man's Beard Coltsfoot Red Deadnettle

Evening Primrose Tansy

Fleabane Wild Parsnip

Wild Privet Hedge Woundwort

Wild Honeysuckle Yellow Melilot

Brook (Acidic pref.)

Dogwood (Calcareous)

Yarrow

Hogwood

Viper's Bugloss

Rose Bay Willowherb



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B22 Appendix 3 List of Plants continued

SOMe trees which attract butterflies to their flowers

Lilac
Hawthorn
Holly
Goat Willow (Great Sallow or 'Pussy Willow)
Wild Cherry and Pear
Strawberry Tree
Wayfaring Tree
Bird Cherry

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